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EXAMINER	
AJIBADE AKONAI, OLUMIDE	

ART UNIT	PAPER NUMBER
2686	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/786,289	NISHIMURA ET AL.	
	Examiner	Art Unit	
	Olumide T. Ajibade-Akonai	2686	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 February 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *08/05/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: Page 26, lines 22, 25 and 27 refer to the control point managing unit in figure 7 as representative element 52. This is inconsistent with the label in the drawing. The examiner suggests control point managing unit part should be maintained as representative element 53, as consistent with the drawing. Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 2, 7, 15, 17 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by **Wallentin (6,246,878)**.

Regarding **claim 1**, Wallentin discloses a radio data communications method in which at least one of a first radio network controller (SRNC, see fig. 1A, col. 2, lines 26-31) and a second radio network controller (TRNC, see fig. 1A, col. 2, lines 26-31) performs a soft handover process for allowing soft handover of a mobile terminal (Inter-RNC soft handover between two or more RNCs, see figs. 1A and 1B, col. 6, lines 20-26), when the mobile terminal is performing the soft handover (mobile station MS employs the RNCs to perform the Inter-RNC soft handover, see figs. 1A and 1B, col. 2, lines 20-23), wherein: a radio network controller performing the soft handover process is

changed when the mobile terminal is performing the soft handover (as MS moves, all the base stations involved in the handoff are eventually controlled by the TRNC, see fig. 1B, col. 2, lines 51-56).

Regarding **claim 2**, as applied to claim 1, Wallentin further discloses I wherein the soft handover process in downlink radio data communications in which the first radio network controller transmits data to the mobile terminal via the second radio network controller and a base station (see col. 5, lines 24-34) comprising the steps of: determining a first transmission timing of transmitting the data to all base stations to which the mobile terminal is connected when performing the soft handover (inherent, since the SRNC and TRNC adjust their timing in order to compensate for delays in a synchronization procedure, see col. 8, lines 58-67, col. 9, lines 1-17); dividing the data and providing a sequence number to each of the data fragments (see col. 9, lines 30-39); and transmitting the data fragments to all the base stations at the first transmission timing (inherent, since the SRNC and TRNC adjust their timing in order to compensate for delays in a synchronization procedure, see col. 8, lines 58-67, col. 9, lines 1-17, col. 9, lines 37-43).

Regarding **claim 7** as applied to claim 1, Wallentin discloses wherein: the soft handover process in uplink radio data communications in which a mobile terminal transmits data to the first radio network controller via a base station and the second radio network controller (see col. 5, lines 36-49) comprising the steps of: performing selective combining of data fragments from all base stations to which the mobile terminal is connected when performing the soft handover and reconstructing the

data from the selectively combined data fragments (see col. 5, lines 36-49, col. 6, lines 28-42, col. 7, lines 29-42).

Regarding **claim 15**, Wallentin discloses a radio network controller (SRNC and TRNC, see fig. 1, col. 4, lines 60-66) for performing a soft handover process for allowing soft handover of a mobile terminal (TRNC and SRNC involved an inter-RNC handover with mobile station MS, see fig. 2, col. 5, lines 24-26), when the mobile terminal is performing soft handover, in downlink radio data communications in which data is transmitted to the mobile terminal via a base station (see col. 5, lines 24-34), the radio network controller comprising: a notification receiver configured to receive a notification instructing the radio network controller to perform the soft handover process as a second radio network controller (Target RNC receives a handover setup request, see col. 8, lines 3-24); a transmission timing determiner (diversity handover unit 130, see figs. 1,2, and 3A, col. 9, lines 1-17) configured to determine a first transmission timing of transmitting the data to base stations managed by the radio network controller among base stations to which the mobile terminal is connected when performing the soft handover, in response to the notification (SRNC and TRNC adjust their timing in order to compensate for delays in a synchronization procedure, see col. 8, lines 58-67, col. 9, lines 1-17); and a data transmitter configured to transmit, at the first transmission timing, data fragments from a first radio network controller to the base stations managed by the radio network controller among the base stations to which the mobile terminal is connected when performing the soft handover, in response to the notification (see col. 5, lines 24-34).

Regarding **claim 17**, Wallentin discloses a radio network controller (SRNC and TRNC, see fig. 1, col. 4, lines 60-66) for performing a soft handover process for allowing soft handover of a mobile terminal (TRNC and SRNC involved an inter-RNC handover with mobile station MS, see fig. 2, col. 5, lines 24-26), when the mobile terminal is performing the soft handover, in uplink radio data communications in which the mobile terminal transmits data via a base station (see col. 5, lines 24-34), the radio network controller comprising: a notification receiver configured to receive a notification instructing the radio network controller to perform the soft handover process as a first radio network controller (Target RNC receives a handover setup request, see col. 8, lines 3-24); a selective combiner configured to perform selective combining of data fragments from all base stations to which the mobile terminal is connected when performing the soft handover, in response to the notification (diversity handover unit DHU see figs. 1 and 2, col. 2, lines 1-11); and a reconstructor (frame selector, see col. 6, lines 28-42) configured to reconstruct the data from the selectively combined data fragments, in response to the notification.

Regarding **claim 18**, Wallentin discloses a radio network controller (SRNC and TRNC, see fig. 1, col. 4, lines 60-66) for performing a soft handover process for allowing soft handover of a mobile terminal (TRNC and SRNC involved an inter-RNC handover with mobile station MS, see fig. 2, col. 5, lines 24-26), when the mobile terminal is performing the soft handover, in uplink radio data communications in which the mobile terminal transmits data via a base station (see col. 5, lines 35-50), the radio network controller comprising: a notification receiver configured to receive a notification

instructing the radio network controller to perform the soft handover process (Target RNC receives a handover setup request, see col. 8, lines 3-24); a selective combiner configured to perform selective combining of data fragments from base stations managed by the radio network controller among all base stations to which the mobile terminal is connected when performing the soft handover, in response to the notification (diversity handover unit DHU to split information, see figs. 1 and 2, col. 2, lines 1-11); and a data transmitter (DHU 130, see col. 5, line 42) configured to transmit the selectively combined data fragments to a first radio network controller in response to the notification (see col. 5, lines 35-50).

4. Claim 12 is rejected under 35 U.S.C. 102(b) as being anticipated by **Grob et al (20020049060)**.

Regarding **claim 12**, Grob et al discloses a server (MSC 107, see fig. 1, p.1, [0009]) for controlling a radio data communications method in which at least one of a first radio network controller (inherent, since the Base Station 103 requires a base station controller for allocation of radio resource to a mobile station and to enable handover between base transceiver stations that are controlled by the BSC, see fig. 1, p.1, [0009]) and a second radio network controller performs a soft handover process for allowing soft handover of a mobile terminal (inherent, since the Base Station 105 requires a base station controller for allocation of radio resource to a mobile station and to enable handover between base transceiver stations that are controlled by the BSC, see fig. 1, p.1, [0009]), when the mobile terminal is performing the soft handover, in downlink radio data communications in which the first radio network controller transmits

data to the mobile terminal via the second radio network controller and a base station, or in uplink radio data communications in which the mobile terminal transmits data to the first radio network controller via the base station and the second radio network controller (see fig. 1, p.1, [0009]), the server comprising: a determiner configured to determine a change of the radio network controller performing the soft handover process when the mobile terminal is performing the soft handover (general purpose processor 403, see fig. 4, p.3, [0036]), according to a notification (PSMM, see p.3, [0036]) from the mobile terminal (mobile station 101, see fig. 1, p.1, [0009]); and a notification provider configured to notify radio network controllers related to the change of the determination (communication interface 401, see fig. 4, p.3, [0036]-[0037]).

5. Claims 16 and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by **Chuah (20030076803)**.

Regarding **claim 16**, Chuah discloses a radio network controller (SRNC 54 or TRNC 60, see fig. 2, p.1, [0009]) for performing a soft handover process for allowing soft handover of a mobile terminal, when the mobile terminal is performing the soft handover, in downlink radio data communications in which data is transmitted to the mobile terminal via a base station (see fig. 2, p. 1, [0009]), the radio network controller comprising : a notification receiver configured to receive a notification instructing the radio network controller not to perform the soft handover process (inherent, since the MSC is responsible for macro-mobility, it is able to determine which RNC is involved in the handoff and can thus send a handoff request message to the RNC, requesting the handoff functions be transferred from a SRNC to a DRNC, see fig. 2, p.1, [0007],

[0009]); and a data transmitter configured to transfer the data without dividing the data, in response to the notification (inherent, since the MSC is responsible for macro-mobility, it is able to determine which RNC is involved in the handoff and can thus send a handoff request message to the RNC, requesting the handoff functions be transferred from a SRNC to a DRNC, see fig. 2, p.1, [0007], [0009]).

Regarding **claim 19**, Chuah discloses a radio network controller (SRNC 54 or TRNC 60, see fig. 2, p.1, [0009]) for performing a soft handover process for allowing soft handover of a mobile terminal, when the mobile terminal is performing the soft handover, in downlink radio data communications in which data is transmitted to the mobile terminal via a base station (see fig. 2, p. 1, [0009]), the radio network controller comprising : a notification receiver configured to receive a notification instructing the radio network controller not to perform the soft handover process (inherent, since the MSC is responsible for macro-mobility, it is able to determine which RNC is involved in the handoff and can thus send a handoff request message to the RNC, requesting the handoff functions be transferred from a SRNC to a DRNC, see fig. 2, p.1, [0007], [0009]); and a data transmitter configured to transmit to a first radio network controller data fragments from a base station managed by the radio network controller among all base stations to which the mobile terminal is connected when performing the soft handover, without performing selective combining in response to the notification (inherent, since the MSC is responsible for macro-mobility, it is able to determine which RNC is involved in the handoff and can thus send a handoff request message to the

RNC, requesting the handoff functions be transferred from a SRNC to a DRNC, see fig. 2, p.1, [0007], [0009]).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 4, 5, 9, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Wallentin (6,246,878)** in view of and **Chuah (20030076803)**.

Regarding **claim 4**, as applied to claim 2, Wallentin discloses the claimed invention. In addition Wallentin, further discloses wherein the second radio network (SRNC or TRNC, see fig. 1, col. 4, lines 60-66) controller divides the data and provides the sequence number to each of the data fragments based on the sequence number providing status of the first radio network controller (SRNC or TRNC, see fig. 1, col. 4, lines 60-66), when detecting that the data from the first radio network controller is not divided or is not provided with the sequence number (see col. 9, lines 30-39), the second radio network controller transmits, at the first transmission timing, the data fragments to all base stations to which the mobile terminal is connected when performing the soft handover (inherent, since the SRNC and TRNC adjust their timing in order to compensate for delays in a synchronization procedure, see col. 8, lines 58-67, col. 9, lines 1-17, col. 9, lines 37-43).

Wallentin fails to disclose wherein a server determines that the first radio network controller should not perform the soft handover process according to a notification from the mobile terminal, when the first radio network controller and the second radio network controller perform the soft handover process; the server notifies the first radio network controller and the second radio network controller of the determination; the first radio network controller transmits the data to the second radio network controller without dividing the data and without providing the sequence number to the data.

In the same field of endeavor, Chuah teaches wherein a server (MSC 30, see fig. 1, p.1, [0007]) determines that the first radio network controller (SRNC 54, see fig. 2, p.1, [0009]) should not perform the soft handover process according to a notification from the mobile terminal, when the first radio network controller and the second radio network controller (TRNC 60, see fig. 1, p.1, [0009]) perform the soft handover process (inherent, since the MSC is responsible for macro-mobility, it is able to determine which RNC is involved in the handoff and can thus send a handoff request message to the RNC, requesting the handoff functions be transferred from a SRNC to a DRNC, see fig. 2, p.1, [0007], [0009]); the server notifies the first radio network controller and the second radio network controller of the determination (inherent, since the MSC is responsible for macro-mobility, it is able to determine which RNC is involved in the handoff and can thus send a handoff request message to the RNC, requesting the handoff functions be transferred from a SRNC to a DRNC, see fig. 2, p.1, [0007], [0009]); the first radio network controller transmits the data to the second radio network

controller without dividing the data and without providing the sequence number to the data (see fig. 2, p.2, [0009]).

It would therefore have been obvious to one of ordinary skill in the art to combine the teaching of Chuah with Wallentin for the benefit of an efficient wireless access system.

Regarding **claim 5**, as applied to claim 2, Wallentin discloses the claimed invention. In addition, Wallentin further discloses wherein the first radio network controller transmits, at the first transmission timing, the data fragments (see col. 5, lines 24-34) to all base stations to which the mobile terminal is connected when performing the soft handover (inherent, since the SRNC and TRNC adjust their timing in order to compensate for delays in a synchronization procedure, see col. 8, lines 58-67, col. 9, lines 1-17, col. 9, lines 37-43).

Wallentin fails to disclose wherein a server determines that the second radio network controller should not perform the soft handover process according to a notification from the mobile terminal, when the first radio network controller and the second radio network controller perform the soft handover process; the server notifies the first radio network controller.

In the same field of endeavor, Chuah discloses wherein a server (MSC 30, see fig. 1, p.1, [0007]) determines that the second radio network controller (SRNC 54, see fig. 2, p.1, [0009]) should not perform the soft handover process according to a notification from the mobile terminal (inherent, since the MSC is responsible for macro-mobility, it is able to determine which RNC is involved in the handoff and can thus send

a handoff request message to the RNC, requesting the handoff functions be transferred from a SRNC to a DRNC, see fig. 2, p.1, [0007], [0009]), when the first radio network controller and the second radio network controller perform the soft handover process; the server notifies the first radio network controller (inherent, since the MSC is responsible for macro-mobility, it is able to determine which RNC is involved in the handoff and can thus send a handoff request message to the RNC, requesting the handoff functions be transferred from a SRNC to a DRNC, see fig. 2, p.1, [0007], [0009]).

It would therefore have been obvious to one of ordinary skill in the art to further modify the combination of Wallentin and Chuah for the benefit of an efficient wireless access system.

Regarding **claim 9**, as applied to claim 7, Wallentin discloses the claimed invention. In addition, Wallentin further discloses wherein the second radio network controller performs a selectively combining of the data fragments from base stations managed by the second radio network controller among base stations to which the mobile terminal is connected when performing the soft handover (diversity handover unit DHU see figs. 1 and 2, col. 2, lines 1-11); the second radio network controller reconstructs the data from the selectively combined data fragments, and notifies the first radio network controller of the fact; and the first radio network controller stops the selective combing and reconstruction of the data fragments in response to the notification from the second radio network controller (see col. 6, lines 28-42).

Wallentin fails to disclose wherein a server determines that the first radio network controller should not perform the soft handover process according to a notification from the mobile terminal, when the first radio network controller and the second radio network controller perform the soft handover process; the server notifies the first radio network controller and the second radio network controller of the determination; the first radio network controller transmits the data to the second radio network controller without dividing the data and without providing the sequence number to the data.

In the same field of endeavor, Chuah teaches wherein a server (MSC 30, see fig. 1, p.1, [0007]) determines that the first radio network controller (SRNC 54, see fig. 2, p.1, [0009]) should not perform the soft handover process according to a notification from the mobile terminal, when the first radio network controller and the second radio network controller (TRNC 60, see fig. 1, p.1, [0009]) perform the soft handover process (inherent, since the MSC is responsible for macro-mobility, it is able to determine which RNC is involved in the handoff and can thus send a handoff request message to the RNC, requesting the handoff functions be transferred from a SRNC to a DRNC, see fig. 2, p.1, [0007], [0009]); the server notifies the first radio network controller and the second radio network controller of the determination (inherent, since the MSC is responsible for macro-mobility, it is able to determine which RNC is involved in the handoff and can thus send a handoff request message to the RNC, requesting the handoff functions be transferred from a SRNC to a DRNC, see fig. 2, p.1, [0007], [0009]); the first radio network controller transmits the data to the second radio network

controller without dividing the data and without providing the sequence number to the data (see fig. 2, p.2, [0009]).

It would therefore have been obvious to one of ordinary skill in the art to combine the teaching of Chuah with Wallentin for the benefit of an efficient wireless access system.

Regarding **claim 10**, as applied to claim 7, Wallentin discloses the claimed invention. In addition, Wallentin further discloses wherein the second radio network controller stops the selective combining of the data fragments from base stations managed by the second radio network controller among base stations to which the mobile terminal is connected when performing the soft handover, and transfers the data fragments to the first radio network controller (see col. 6, lines 6-42); the first radio network controller performs the selective combining of the data fragments transferred from the second radio network controller. and the data fragments from a base station managed by the first radio network controller among the base stations to which the mobile terminal is connected when performing the soft handover; and the first radio network controller reconstructs the data from the selectively combined data fragments (see col. 6, lines 6-42).

Wallentin fails to disclose wherein a server determines that the second radio network controller should not perform the soft handover process according to a notification from the mobile terminal, when the first radio network controller and the second radio network controller perform the soft handover process; the server notifies the first radio network controller.

In the same field of endeavor, Chuah discloses wherein a server (MSC 30, see fig. 1, p.1, [0007]) determines that the second radio network controller (SRNC 54, see fig. 2, p.1, [0009]) should not perform the soft handover process according to a notification from the mobile terminal (inherent, since the MSC is responsible for macro-mobility, it is able to determine which RNC is involved in the handoff and can thus send a handoff request message to the RNC, requesting the handoff functions be transferred from a SRNC to a DRNC, see fig. 2, p.1, [0007], [0009]), when the first radio network controller and the second radio network controller perform the soft handover process; the server notifies the first radio network controller (inherent, since the MSC is responsible for macro-mobility, it is able to determine which RNC is involved in the handoff and can thus send a handoff request message to the RNC, requesting the handoff functions be transferred from a SRNC to a DRNC, see fig. 2, p.1, [0007], [0009]).

It would therefore have been obvious to one of ordinary skill in the art to further modify the combination of Wallentin and Chuah for the benefit of an efficient wireless access system.

8. Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Wallentin (6,246,878)** in view of and **Lundh et al (6,373,834)**.

Regarding **claim 13**, Wallentin discloses a radio network controller (SRNC and TRNC, see fig. 1, col. 4, lines 60-66) for performing a soft handover process for allowing soft handover of a mobile terminal (TRNC and SRNC involved an inter-RNC handover with mobile station MS, see fig. 2, col. 5, lines 24-26), when the mobile terminal is

performing soft handover, in downlink radio data communications in which data is transmitted to the mobile terminal via a base station (see col. 5, lines 24-34), the radio network controller comprising: a notification receiver configured to receive a notification instructing the radio network controller to perform the soft handover process as a first radio network controller (Target RNC receives a handover setup request, see col. 8, lines 3-24); a data divider configured to divide the data in response to the notification (frame splitter, see fig. 3A, col. 6, lines 4-6, 11-28); a transmission timing determiner (diversity handover unit 130, see figs. 1,2, and 3A, col. 9, lines 1-17) configured to determine a first transmission timing of transmitting the data to a base station managed by the radio network controller among base stations to which the mobile terminal is connected when performing the soft handover, and to determine a second transmission timing of transmitting the data to a second radio network controller, in response to the notification (SRNC and TRNC adjust their timing in order to compensate for delays in a synchronization procedure, see col. 8, lines 58-67, col. 9, lines 1-17); and a data transmitter configured to transmit data fragments to the second radio network controller at the second transmission timing, and to transmit at the first transmission timing the data fragments to the base station managed by the radio network controller among the base stations to which the mobile terminal is connected when performing the soft handover, in response to the notification (see col. 5, lines 24-34).

Wallentin fails to disclose a sequence number provider configured to provide a sequence number to each of the data fragments, based on a sequence number providing status, in response to the notification.

In the same field of endeavor, Lundh et al teaches a sequence number provider configured to provide a sequence number to each of the data fragments, based on a sequence number providing status (see col. 2, lines 34-46).

It would therefore have been obvious to one of ordinary skill in the art to attach sequence numbers to each downlink or uplink frame. The motivation for doing so would have been to align the frames in order to adjust the transmission timing. Therefore it would have been obvious to one of ordinary skill in the art to combine Lundh et al with Wallentin to obtain the invention as specified in claim 13.

Regarding **claim 14**, as applied to claim 13, the combination of Wallentin and Lundh et al disclose the claimed invention.

Wallentin fails to disclose except wherein the data transmitter adds information requesting the sequence number providing status to the data fragment for transmission to the second radio network controller; and the sequence number provider takes over the sequence number providing status, according to a sequence number provided to the data fragment added with the information requesting the sequence number providing status notified by the second radio network controller, and the number of data fragments transmitted until receiving the sequence number since transmitting the data fragment added with the information requesting the sequence number providing status.

In the same field of endeavor, Lundh et al discloses wherein the data transmitter adds information requesting the sequence number providing status to the data fragment for transmission to the second radio network controller; and the sequence

number provider takes over the sequence number providing status, according to a sequence number provided to the data fragment added with the information requesting the sequence number providing status notified by the second radio network controller, and the number of data fragments transmitted until receiving the sequence number since transmitting the data fragment added with the information requesting the sequence number providing status (see col. 2, lines 34-46).

It would therefore have been obvious to one of ordinary skill in the art to attach sequence numbers to each downlink or uplink frame. The motivation for doing so would have been to align the frames in order to adjust the transmission timing. Therefore it would have been obvious to one of ordinary skill in the art to combine Lundh et al with Wallentin to obtain the invention as specified in claim 14.

9. Claims 8 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Wallentin (6,246,878)** in view of and **Grob et al (20020049060)**.

Regarding **claim 8**, as applied to claim 7, Wallentin discloses the claimed invention, in addition Wallentin further discloses wherein the second radio network controller performs a selective combining of the data fragments from base stations managed by the second radio network controller among base stations to which the mobile terminal is connected when performing the soft handover (see col. 5, lines 36-49, col. 6, lines 28-42, col. 7, lines 29-42); the first radio network controller performs a selective combining of the selectively combined data fragments from the second radio network controller, and the data fragments from a base station managed by the first radio network controller among the base stations to which the mobile terminal is

connected when performing the soft handover; and the first radio network controller reconstructs the data from the selectively combined data fragments (see col. 5, lines 36-49, col. 6, lines 28-42, col. 7, lines 29-42).

Wallentin fails to disclose a server determines wherein a server determines that the first radio network controller should perform the soft handover process together with the second radio network controller according to a notification from the mobile terminal, when the second radio network controller performs the soft handover process; the server notifies the first radio network controller and the second radio network controller of the determination.

In the same field of endeavor, Grob et al discloses wherein a server (MSC 107, see fig. 1, p.1, [0009]) determines that the first radio network controller (inherent, since the Base Station 105 requires a base station controller for allocation of radio resource to a mobile station and to enable handover between base transceiver stations that are controlled by the BSC, see fig. 1, p.1, [0009]) should perform the soft handover process together with the second radio network controller according to a notification from the mobile terminal (inherent, since the Base Station 105 requires a base station controller for allocation of radio resource to a mobile station and to enable handover between base transceiver stations that are controlled by the BSC, see fig. 1, p.1, [0009]), when the second radio network controller performs the soft handover process; the server notifies the first radio network controller and the second radio network controller of the determination (see fig. 4, p.3, [0036]).

It would therefore have been obvious to one of ordinary skill in the art to combine the teaching of Grob et al with Wallentin for the benefit of completing a soft handoff procedure.

Regarding **claim 11**, as applied to claim 7, Wallentin discloses the claimed invention. In addition, Wallentin further discloses wherein the second radio network controller performs the selective combining of the data fragments from base stations managed by the second radio network controller among base stations to which the mobile terminal is connected when performing the soft handover (see col. 5, lines 36-49, col. 6, lines 28-42, col. 7, lines 29-42), in response to the notification from the server; the first radio network controller performs the selective combining of the selectively combined data fragments from the second radio network controller, and the data fragments from a base station managed by the first radio network controller among the base stations to which the mobile terminal is connected when performing the soft handover; and the first radio network controller reconstructs the data from the selectively combined data fragments (see col. 5, lines 36-49, col. 6, lines 28-42, col. 7, lines 29-42).

Wallentin fails to disclose wherein a server determines that the second radio network controller should perform the soft handover process together with the first radio network controller according to a notification from the mobile terminal, when the first radio network controller performs the soft handover process, the server notifies the first radio network controller and the second radio network controller of the determination.

In the same field of endeavor, Grob et al discloses wherein a server (MSC 107, see fig. 1, p.1, [0009]) determines that the second radio network controller should perform the soft handover process together with the first radio network controller (inherent, since the Base Station 105 requires a base station controller for allocation of radio resource to a mobile station and to enable handover between base transceiver stations that are controlled by the BSC, see fig. 1, p.1, [0009]) according to a notification from the mobile terminal, when the first radio network controller performs the soft handover process, the server notifies the first radio network controller and the second radio network controller of the determination (see fig. 4, p.3, [0036]).

It would therefore have been obvious to one of ordinary skill in the art to further modify the combination of Wallentin and Grob et al for the benefit of completing a soft handoff procedure.

10. Claims 3 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Wallentin (6,246,878)** in view of **Grob et al (20020049060)** and **Lundh et al (6,373,834)**.

Regarding **claim 3**, as applied to claim 2, Wallentin discloses the claimed Invention, in addition, Wallentin further discloses the first radio network controller takes over a sequence number providing status from the second radio network controller (inherent, since the SRNC and TRNC adjust their timing in order to compensate for delays in a synchronization procedure, see col. 8, lines 58-67, col. 9, lines 1-17);

the first radio network controller determines a second transmission timing of transmitting the data to the second radio network controller; the first radio network controller provides the sequence number to each of the data fragments based on the sequence number providing status (inherent, since the SRNC and TRNC adjust their timing in order to compensate for delays in a synchronization procedure, see col. 8, lines 58-67, col. 9, lines 1-17); the first radio network controller transmits the data fragments to the second radio network controller at the second transmission timing (inherent, since the SRNC and TRNC adjust their timing in order to compensate for delays in a synchronization procedure, see col. 8, lines 58-67, col. 9, lines 1-17); the first radio network controller transmits, at the first transmission timing, the data fragments to a base station managed by the first radio network controller among base stations to which the mobile terminal is connected when performing the soft handover; and the second radio network controller transmits, at the first transmission timing the data fragments from the first radio network controller to a base station managed by the second radio network controller among the base stations to which the mobile terminal is connected when performing the soft handover (inherent, since the SRNC and TRNC adjust their timing in order to compensate for delays in a synchronization procedure, see col. 8, lines 58-67, col. 9, lines 1-17).

Wallentin fails to disclose wherein a server determines that the first radio network controller should perform the soft handover process together with the second radio network controller according to a notification from the mobile terminal, when the second radio network controller performs the soft handover process.

In the same field of endeavor, Grob et al discloses wherein a server (MSC 107, see fig. 1, p.1, [0009]) determines that the first radio network controller (inherent, since the Base Station 105 requires a base station controller for allocation of radio resource to a mobile station and to enable handover between base transceiver stations that are controlled by the BSC, see fig. 1, p.1, [0009]) should perform the soft handover process together with the second radio network controller (inherent, since the Base Station 105 requires a base station controller for allocation of radio resource to a mobile station and to enable handover between base transceiver stations that are controlled by the BSC, see fig. 1, p.1, [0009]) according to a notification from the mobile terminal, when the second radio network controller performs the soft handover process (see fig. 4, p.3, [0036]).

It would therefore have been obvious to one of ordinary skill in the art to combine the teaching of Grob et al with Wallentin for the benefit of completing a soft handoff procedure.

Wallentin, as modified by Grob et al fails to disclose wherein the first network controller takes over a sequence number providing status from the second radio network controller, and wherein the first network controller provides the sequence number to each of the data fragments, based on the number providing status.

In the same field of endeavor, Lundh et al teaches wherein the first network controller takes over a sequence number providing status from the second radio network controller, and wherein the first network controller provides the sequence number to each of the data fragments, based on the number providing status (see col.

2, lines 34-46). It would therefore have been obvious to one of ordinary skill in the art to attach sequence numbers to each downlink or uplink frame. The motivation for doing so would have been to align the frames in order to adjust the transmission timing. Therefore it would have been obvious to one of ordinary skill in the art to combine Lundh et al with Wallentin and Grob et al to obtain the invention as specified in claim 3.

Regarding **claim 6**, as applied to claim 2, Wallentin discloses the claimed invention, in addition, Wallentin further discloses wherein the first radio network controller determines a second transmission timing of transmitting the data to the second radio network controller (SRNC and TRNC adjust their timing in order to compensate for delays in a synchronization procedure, see col. 8, lines 58-67, col. 9, lines 1-17), the first radio network controller divides the data and provides the sequence number to each of the data fragments (see col. 9, lines 30-39); the first radio network controller transmits the data fragments to the second radio network controller at the second transmission timing; the first radio network controller transmits, at the first transmission timing, the data fragments to a base station managed by the first radio network controller among base stations to which the mobile terminal is connected when performing the soft handover (SRNC and TRNC adjust their timing in order to compensate for delays in a synchronization procedure, see col. 8, lines 58-67, col. 9, lines 1-17); and the second radio network controller transmits, at the first transmission timing, the data fragments from the first radio network controller to base stations managed by the second radio network controller among the base stations to which the mobile terminal is connected when performing the soft handover (SRNC

and TRNC adjust their timing in order to compensate for delays in a synchronization procedure, see col. 8, lines 58-67, col. 9, lines 1-17).

Wallentin fails to disclose wherein a server determines that the second radio network controller should perform the soft handover process together with the first radio network controller according to a notification from the mobile terminal, when the first radio network controller performs the soft handover process; the server notifies the first radio network controller and the second radio network controller of the determination.

In the same field of endeavor, Grob et al teaches disclose wherein a server (MSC 107, see fig. 1, p.1, [0009]) determines that the second radio network controller (inherent, since the Base Station 105 requires a base station controller for allocation of radio resource to a mobile station and to enable handover between base transceiver stations that are controlled by the BSC, see fig. 1, p.1, [0009]) should perform the soft handover process together with the first radio network controller according to a notification from the mobile terminal, when the first radio network controller performs the soft handover process (inherent, since the Base Station 105 requires a base station controller for allocation of radio resource to a mobile station and to enable handover between base transceiver stations that are controlled by the BSC, see fig. 1, p.1, [0009]); the server notifies the first radio network controller and the second radio network controller of the determination (see fig. 4, p.3, [0036]).

It would therefore have been obvious to one of ordinary skill in the art to further modify the combination of Wallentin and Grob et al for the benefit of completing a soft handoff procedure.

Wallentin, as modified by Grob et al fails to disclose wherein the first radio network controller divides the data and provides the sequence number to each of the data fragments.

Lundh et al, however, teaches wherein the first radio network controller divides the data and provides the sequence number to each of the data fragments (see col. 2, lines 34-46).

It would therefore have been obvious to one of ordinary skill in the art to modify the combination of Wallentin, Grob et al and Lundh for the benefit of adjusting the transmission timing.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Ljung (6,078,813) discloses handover quality control in a mobile communications system.

Lehtovirta et al (20010034228) discloses a method and apparatus for releasing connections in an access network.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Olumide T. Ajibade-Akonai whose telephone number is 571-272-6496. The examiner can normally be reached on M-F, 8.30p-5p.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha D. Banks-Harold can be reached on 571-272-7905. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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OA

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